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ROYAL BOTANIC GARDENS, KEW.

BULLETIN

OF

MISCELLANEOUS INFORMATION.

No. 9] [1924

XXXIX.—ON THE FLORA OF THE GALLIPOLI PENINSULA.*

W. B. Turrill.

Umbelliferae.

Apium graveolens *L.* Sp. Pl. 264 (1753).
Near Gaba Tepe, 10.6.23, *Ingoldby* 303.
Distr. I. 1, 2, 2a, 3, 3a, 4, 6, 6a, 7, 8, 9, 14, 15, 16.

Bupleurum apiculatum *Friv.* in Flora xviii. i. 335 (1835).
Near Gaba Tepe, 10.6.23, *Ingoldby* 309. Later found universally covering large areas.
Distr. XX. 2, 3, 3a, 4, 6, 6a, 7, 8, 8a, 8b, 9, 10.

B. gracile *DC.* Prodr. iv. 128 (1830). *Odontites gracilis* M. B. in Hoffm. Gen. Umb. ed. 2, 209 (1816) et in Fl. Taur.-Cauc. iii. 198 (1819). *B. Marschallianum* C. A. Mey. Verzeichn. Pfl. Cauc. 123 (1831).
Kara Kova Dere, salt marsh, 30.7.23, *Ingoldby* 517; and 11.8.23, *Ingoldby* 548.
Distr. XI. and Caucasus. 2, 2a, 3, 6a, 7, 8, 8a.

B. subovatum *Link* in Spreng. Spec. Umbell. 19 (1818). *B. protractum* Hoffm. et Link Fl. Portug. ii. 387 (1820), non vidi, ex Wolff in Pflanzenr. iv. 228. 46 (1910).
Helles, 28.5.23, *Ingoldby* 273.
Distr. V. and XII. 1, 2, 2a, 3, 4a, 5, 6a, 7, 11, 13, 14, 15, 16.

Caucalis latifolia *L.* Syst. ii. ed. 12, 205 (1767).
Kilia, Mal Tepe, common, 18.5.23, *Ingoldby* 203; Suvla and Anzac, 16.5.24, *Kett* 104.
Distr. III. 1, 2, 3, 3b, 4, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Conium maculatum *L.* Sp. Pl. 243 (1753).
Angadere, 15.7.23, *Ingoldby* 369.
Distr. III. 1, 2, 3, 3b, 5, 6, 6a, 7, 8, 9, 10, 11, 12, 14, 15, 16.

* Continued from *K.B.*, 1924, p.331.

(18180.) Wt. 152—23. 1,000. 10/24. Wy. & S., Ltd. Gp. 50 (4).

Crithmum maritimum *L.* Sp. Pl. 246 (1753).
Suvla, 5.8.23, *Ingoldby* 540.
Distr. VI. and W. Europe. 1, 2, 2a, 3b, 4a, 5, 6a, 7, 11, 14, 15, 16.

Daucus carota *L.* Sp. Pl. 242 (1753).
Maidos, in the valley, 14.6.23, *Ingoldby* 328; Angadere, on dry flat hill-tops, 21.7.23, *Ingoldby* 422.
Distr. III. 1, 2, 2a, 3, 4, 5, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.
The Maidos specimen is not quite the same as that from Angadere. In some respects it approaches *D. maximus* Desf., but it is not so large as most examples which I have seen of this. which can scarcely be regarded as a distinct species from *D. carota.*

Echinophora tenuifolia *L.* Sp. Pl. 239 (1753).
Kara Kova Dere, salt marsh, 30.7.23, *Ingoldby* 522.
Distr. XI. 1, 2, 2a, 3, 3a, 6, 6a, 7, 9.

Eryngium creticum *Lamk.* Encycl. iv. 754 (1796).
Kilia, 9.7.23, *Ingoldby* 396.
Distr. XI. and Egypt. 1, 2, 2a, 3, 3a, 4a, 5, 6, 6a, 6b, 7, 7a, 11, 14, 16.

E. maritimum *L.* Sp. Pl. 233 (1753).
Suvla, on the beach, 8.6.23, *Ingoldby* 296.
Distr. V. and W. Europe. 1, 2, 2a, 3, 5, 6a, 7, 8, 9, 14, 15, 16.

Ferulago monticola *Boiss. et Heldr.* Diagn. Ser. II. ii. 91 (1856).
Helles, 28.5.23, *Ingoldby* 260; Angadere, in open oak scrub, in fruit, 27.7.23, *Ingoldby* 476.
Distr. XX. 2, 3, 3a, 3b, 4, 6, 6a, 6b, 8, 8a, 10.
This species was originally described from specimens collected by Heldreich "in dumosis prope Rachova ad radices Parnassi", and an example of this collection is preserved at Kew. In the Flor. Or. ii. 1002 (1872) Boissier added other specimens as follows: mons Chelmos (Orph.), Olympus Thessalus (Heldr., Orph.), Athos (Griseb.), Korthiat (Friv., Orph.). Janka, in Termész. Füzetek iii. pte. iv. 1879, published a paper on this species separating the three species *Ferulago silvatica* (Bess.) Reichb., *F. monticola* Boiss. et Heldr. and *Lophosciadium meifolium* DC. [*Ferulago meoides* (L.) Boiss.] His main points are that *Lophosciadium* is a distinct genus and that Boissier in the Flor. Or. confused two plants together under the name *Ferulago monticola,* namely *F. monticola* Boiss. et Heldr. (Diagn.) and *Lophosciadium meifolium* DC. This latter conclusion is, however, based on uncertain grounds because Janka did not see the Grisebachian and other specimens quoted by Boissier but only collected the plants in Grisebach's locality on Mt. Athos and in other parts of the Eastern Balkan Peninsula.
Hayek, in Fritsch Neue Beitr. z. Fl. d. Balkanhalbinsel v. in Mitt. Naturwiss Vereins. f. Steiermark li. 37–39 of reprint (1915), records *F. monticola* from a number of localities in Serbia,

but makes the curious mistake of saying that the specimens of Sintenis and Bornmüller Nr. 1249, from Mt. Olympus, are from one of the original localities. Only Heldreich's collection from near Rachova is quoted in the original diagnosis. The Olympian plant is *F. monticola*, in my opinion, but it is referred to *F. silvatica* by Halácsy. Hayek, moreover, separates from *F. silvatica* plants from Transsilvania, and one from Serbia, Mt. Basara, as *F. commutata* Roch. In so doing I do not think he is right. Most authors now refer the Italian *F. Barrelieri* Ten. to *F. silvatica* (Bess.) Reichb.

Halácsy in Consp. Fl. Gr. i. 643–644 (1901) records both *F. monticola* and *F. silvatica* from his area. He describes the latter as differing from the former "fructu parvo, ovato, 6–7 mm. longo, margine corticosa, seminis diametro 3–4 plo angustiore," and quotes Sint. et Bornm. it. turc. n. 1249, Thessalia: Mt. Olympus pr. Hagios Dionysios, and Achaia: pr. Megaspilaeon (Heldr.). I have not seen a specimen of the latter but the specimen of the former at Kew does not agree with the description he gives since the fruits average 1 cm. long by 0–5 cm. broad. Indeed, I think this specimen must be referred to *F. monticola*, and it is doubtful if true *F. silvatica* (Bess.) Reichb. occurs at all in the southern parts of the Balkan Peninsula. An original sheet of the latter received from Besser, Volhynia, is at Kew from the Gay Herbarium. Besser originally described the plant in Enum. Pl. Volh. 44 (1822) under the genus *Ferula*, and the transference to *Ferulago* was made by Reichenbach Fl. Crit. iv. 53 (1826).

Foeniculum vulgare *Mill.* Gard. Dict. ed. 8 (1768). *F. capillaceum* Gilib. Fl. Lith. iv. 40 (1785).

Maidos, 14.7.23, *Ingoldby* 377.

Distr. V. and XII. 1, 2, 3, 4, 7, 8, 10, 11, 14, 15, 16.

Hippomarathrum cristatum *Boiss.* in Ann. Sci.-Nat. Ser. 3. ii. 75 (1844). *Cachrys cristatum* DC. Prodr. iv. 238 (1830).

Suvla, 17.5.23, *Kett* 21; Helles, 27–28.5.23, *Ingoldby* 252.

Distr. VI. 1, 2, 6, 6a, 6b, 7, 8a, 8b.

Orlaya platycarpos *Koch* in Nov. Act. Nat. Cur. xii. i. 79 (1824). *Caucalis platycarpos* L. Sp. Pl. 241 (1753).

Kilia, 23–24.4.23, *Ingoldby* 109.

Distr. VI. 1, 2, 2a, 3b, 6, 6a, 6b, 7, 8a, 8b, 11, 13, 14, 15.

Scandix pecten-veneris *L.* Sp. Pl. 256 (1753).

Kilia, 19–22.4.23, *Ingoldby* 49; Kilia, 24.4.24, *Durham* 99.

Distr. VI. and XII. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

Tordylium apulum *L.* Sp. Pl. 239 (1753).

Kilia, in fruit, 2.5.23, *Kett* 9; Kilia, common, 12.5.23, *Ingoldby* 170; Kilia Bay, in fruit, *Durham*; Kilia, 24.4.24, *Durham* 26.

Distr. VI. 1, 2, 2a, 3, 4a, 6a, 7, 11, 13, 14, 15, 16.

T. officinale *L.* Sp. Pl. 239 (1753).
Helles, 28.5.23, *Ingoldby* 263.
Distr. VIII. 1, 2, 2a, 3, 3b, 4a, 5, 6, 6a, 7, 11, 13, 14, 16.

ARALIACEAE.

Hedera helix *L.* Sp. Pl. 202 (1753).
Suan Dere, growing on a rock in a shady situation near a waterfall, barren, Nov. 1922, *Kett* 73 ; Jam Baz, 6.5.23, *Ingoldby* 583.
Distr. III. 1, 2, 3, 3a, 3b, 4, 5, 6, 6a, 7, 7a, 8, 9, 10, 11, 12, 13, 14, 15, 16.

CAPRIFOLIACEAE.

Lonicera caprifolium *L.* Sp. Pl. 173 (1753).
Anzac, 27–28.5.23, *Ingoldby* 236. A plant with the leaves hairy on the lower surfaces. *Kett* 86, from Anzac, Nov. 1922, is probably this species.
Distr. III. 2, 2a, 4, 4a, 5, 6, 6a, 7, 8, 10, 11, 12, 13, 15, 16.

Sambucus nigra *L.* Sp. Pl. 269 (1753).
Jam Baz Dere, 6.5.23, *Ingoldby* 561.
Distr. IV. and XIVa. 1, 2, 3, 3b, 4, 4a, 5, 6a, 7, 8, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

RUBIACEAE.

Asperula arvensis *L.* Sp. Pl. 103 (1753).
Kilia, common, 19–22.4.23, *Ingoldby* 58, and on dry flat low ground, 1.5.23, *Ingoldby* 118.
Distr. V. and XII. 2, 4a, 5, 6, 6a, 6b, 7, 8, 8b, 10, 11, 12, 13, 14, 15, 16.

A. montana *W. et K.* ex Willd. Enum. Hort. Berol. 151 (1809).
Kilia, June-July 1923, *Ingoldby* 581.
Distr. XIX. 7, 8, 8a, 9, 10.
The above plant I consider to be closely related to *Asperula graveolens* M.B. ex Besser in Schult. Mant. Syst. iii. 376 (1818). Indeed, if this species is accepted in the sense of Boissier, Flora Orientalis iii. 41 (1875), the Gallipoli plant must be included within it. It is evident, however, from an examination of the material preserved in Boissier's own herbarium and very kindly loaned to Kew by Prof. Chodat of Geneva, that a number of distinct, even if "small", species were lumped together by Boissier, whose description, moreover, is a generalised one. Some of these microspecies form morphological connecting links with *A. cynanchica* L.

Asperula rumelica Boiss. was originally described by Boissier, Diagn. Ser. II. ii. 113 (1856), from specimens collected by him "in planitiebus incultis (Steppes) Rumeliae littoralis circâ Kustendje. Legi floriferam fructiferamque Augusto 1842." It also is taxonomically near to the Gallipoli specimen. Kus-

tendje is an old name for Constanta on the Black Sea in the Roumanian Dobruja. In 1842 Boissier visited the Orient. including Constantinople and its neighbourhood, and Prof. Chodat has discovered for me through Mr. Barbey, in whose possession are the Boissierian papers and manuscripts, that Boissier visited Constanta in this year. *Asperula rumelica* is reduced by Boissier himself in the Flora Orientalis to *A. graveolens* M.B., but, in my opinion, wrongly. It seems well distinguished from a small original specimen of *A. graveolens* preserved at Kew, by its much smaller externally puberulous corolla. It may be noted that Boissier describes the corolla of *A. graveolens* as "valde scabrido-pubescentis", but in the original description the wording is "laciniis . . . . glabris . . . . tubo . . . . extus quidquam rugoso." In the Kew specimen already mentioned the corolla is externally glabrous or slightly but coarsely papillose. *A. rumelica* is best regarded as a variety of *A. montana* or kept as a distinct microspecies.

In Boissier's herbarium there is a specimen collected near Mudania in July 1874 (?) by Pichler, Nr. 214, and another collected near Constantinople by Noé. I take both to be *Asperula montana* W. et K. A specimen of Noé's is also at Kew with a fuller label including the date 1845, and the name *Asperula Lechleri* Noé, a name which has apparently never been published.

Our plant differs from *A. graveolens* M.B. in the smaller corolla, its shape, and its densely finely papillose exterior.

I am not certain what *A. cynanchica* (var.) *homophylla* Clem. Sert. 46 (1855) may be, since the original description is too imperfect, and the specimen in Boissier's herbarium is fragmentary, but it is possibly *A. montana*.

From specimens preserved in the Kew Herbarium it is evident that *A. montana* is distributed at least from Hungary right down the eastern side of the B. P. to Gallipoli and Eastern Thrace. I also include in it *A. pirotica* Adamovic (see Magyar Bot. Lapok 1908, 107) from the Pirot district of eastern Serbia.

Galium laconicum *Boiss. et Heldr.* Diagn. Ser. I. vi. 66 (1845).
Angadere, 18.7.23, *Ingoldby* 463.
Distr. XX. 2, 3b, 4, 6, 6a.

I fail to find any differences, which I can regard as specific, between this specimen and specimens of *Orphanides* 185 from mt. Malevo, Laconiae, 4,000 ft., preserved in the Kew Herbarium. Specimens from Southern (Greek) Macedonia, which I previously referred to this species, I now believe to be *G. pseudoaristatum* Schur.

G. mollugo *L.* Sp. Pl. 107 (1753) var. **pubescens** *Schrad.* Spic. Fl. Germ. 16 (1794).
Helles, 28.5.23, *Ingoldby* 274.

Distr. (of species) IV. and XIVa. 2, 3, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 14, 15, 16.

The variety occurs here and there throughout the distributional area of the species as a whole.

G. tricorne *With.* Bot. Arrangem. Brit. Pl. ed. 2, ii. 153 (1787).

Boghali, common, 29.4.23, *Ingoldby* 124.

Distr. V. and XII. 1, 2, 6, 6a, 7, 8, 8a, 10, 11, 12, 13, 14, 15, 16.

G. verum *L.* Sp. Pl. 107 (1753).

Suvla, common, in flower, 20.5.23, *Kett* 26; Eski Keui, 3.6.23, *Ingoldby* 283a.

Distr. III. 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Rubia Olivieri *Rich.* in Mém. Soc. Nat. Par. 132 (1834).

Kilia, greenish flowers, 24.4.24, *Durham* 100; Suvla and Anzac, 16.5.24, *Kett* 93.

Distr. X. 1, 2.

Sherardia arvensis *L.* Sp. Pl. 102 (1753).

Kilia, 19–22.4.23, *Ingoldby* 56; Kilia, flowers purplish, 24.4.24, *Durham* 13.

Distr. V. and XII. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 10, 11, 12, 13, 14, 15, 16.

Valerianaceae.

Valeriana officinalis *L.* Sp. Pl. 31 (1753).

Suvla, pinkish flowers, 24.4.24, *Durham* 40.

Distr. III. 3, 4, 4a, 6, 6a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Valerianella coronata *DC.* in Lamk. et DC. Fl. Fr. ed. 3, iv. 241 (1805).

Kilia, 23–24.4.23, *Ingoldby* 110; Walker's Ridge, Anzac, 90 m., in flower, 21.5.23, *Kett* 51.

Distr. V. and XII. 2, 2a, 3, 4, 4a, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 13, 14, 15.

Dipsaceae.

Callistemma palaestinum *Heldr.* Herb. Norm. 1148 (1891), non vidi, et in Bull. Herb. Boiss. vi. 302 (1898). *Knautia palaestina* L. Mant. altera 197 (1771).

Kilia, common, 2–3.5.23, *Ingoldby* 135; Angadere, on slopes, in flower and fruit, 29.7.23, *Ingoldby* 493.

Distr. X. and west to Italy. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 6, 6a, 6b, 7, 8b, 14, 16.

Knautia integrifolia *Bert.* Fl. Ital. ii. 32 (1835). *Scabiosa integrifolia* L. Sp. Pl. 99 (1753).

Helles, common, 28.5.23, *Ingoldby* 265; Boghali, 8.7.23, *Ingoldby* 390. The former specimen is very incomplete and the determination is tentative.

Distr. VI. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 16.

Pterocephalus plumosus *Coult.* Mém. sur les Dipsac. 31 (1823). *Knautia plumosa L.* Mant. altera 197 (1771).
Angadere, in fruit, 22–24.7.23, *Ingoldby* 448.
Distr. XI. 1, 2, 3, 6, 6a, 8, 8a.

Scabiosa ucranica *L.* Sp. Pl. ed. 2, 144 (1762). *Scabiosa argentea* L. Sp. Pl. 100 (1753) ?
Near Gaba Tepe, 10.6.23, *Ingoldby* 310; Maidos, 15.6.23, *Ingoldby* 338.
Distr. V. 2, 3, 3b, 5, 6a, 7, 8, 8a, 8b, 9, 10, 11.

COMPOSITAE.

Anacyclus clavatus *Pers.* Syn. ii. 465 (1807). *Anthemis clavatus* Desf. Fl. Atl. ii. 287 (1798).
Helles, 23–24.4.23, *Ingoldby* 104.
Distr. VI. 2, 14.

Anthemis austriaca *Jacq.* Fl. Austr. v. 22 (1778).
Kilia, 2–3.5.23, *Ingoldby* 132; Jam Baz, 8–11.5.23, *Ingoldby* 186.
Distr. X. and XII. 6, 6a, 7, 8, 8a, 10, 11, 12, 13, 14, 15.

A. montana *L.* Sp. Pl. ed. 2, 1261 (1762) sensu Hal. Consp. Fl. Gr. ii. 55 (1902).
Walker's Ridge, Anzac, in flower, 17.5.23, *Kett* 40.
Distr. VI. and XII. 1, 2, 3, 3b, 4, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 10, 11.
A very large number of varieties are recognized within what is generally regarded as the one species *A. montana*. The Gallipoli plant comes nearest to the var. *tenuiloba* Boiss. Fl. Or. iii. 291 (1875), but the young shoots are more whitely tomentose than in the specimens of this variety available for comparison. In the absence of achenes I have to leave the determination at the species *sensu lato*.

A. tinctoria *L.* Sp. Pl. 896 (1753).
Kilia, common, 24.5.23, *Ingoldby* 221; Angadere, 22–24.7.23, *Ingoldby* 434, a depauperated form.
Distr. III. 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 10, 11, 12.

A. tomentosa *L.* Sp. Pl. 893 (1753).
Suvla, white ray and yellow disc florets, 24.4.24, *Durham* 75.
Distr. X. 2, 4a, 6a, 7.

Artemisia monogyna *W. et K.* Icon. Pl. Rar. Hung. i. 77, t. 75 (1802) var. **microcephala** *DC.* Prodr. vi. 103 (1837).
Suvla, 5.8.23, *Ingoldby* 549.
Distr. (of var.) XIII. and east to the Caspian Region.
The specimens collected by Capt. Ingoldby agree in a remarkable manner with specimens from Odessa, sent by Besser

and preserved at Kew. These are written up by Besser as "Artemisia maritima L. o Kitaibeliana mihi var. nutans." I have found no publication of the "var. nutans" but "o Kitaibeliana" was published by Besser in the Bull. de la Soc. Impér. des Natural. vii. (1834), page 40 in the Kew copy of the paper, which is possibly a reprint. It is based essentially on *A. monogyna* W. et K. The Gallipoli plant and the Odessa specimens already mentioned do not agree in certain respects with the Hungarian specimens of *A. monogyna* which I have seen, or with the original figure, but from the description fit into the var. *microcephala* DC., which is said to be distributed "ad Odessam, in Taurîâ, circa mare Caspium, Sareptam, Irentiam, etc." The Odessa and Gallipoli plants are taller, much more branched and the leaves are more canescent, while the capitula, though very young, would probably be much smaller when mature than in typical *monogyna*. Until further material in flower and fruit is received I prefer not to make a new species based on these plants, although I realize that they may prove worthy of specific rank.

Bellis silvestris *Cyr.* Pl. Rar. ii. 42, t. 4 (1787), non vidi; Boiss. Fl. Or. iii. 174 (1875).

Angadere, in open oak scrub, 27.7.23, *Ingoldby* 482.

Distr. VI. 1, 2, 2a, 3a, 4, 5, 6a, 7, 8a, 10, 11, 13, 14, 15, 16.

Calendula arvensis *L.* Sp. Pl. ed. 2, 1303 (1763); D. Lanza in Atti Reale Accad. Palermo xii. 111 (1923).

Kilia, common and abundant, in flower and fruit, 19–22.4.23, *Ingoldby* 46; Suvla, 24.4.24, *Durham* 45.

Distr. V. 1, 2, 2a, 3, 4, 4a, 6a, 7, 7a, 11, 14, 15, 16.

Cardopatium corymbosum *Pers.* Syn. ii. 500 (1807). *Carthamus corymbosus* L. Sp. Pl. ed. 2, 1164 (1763).

Maidos, 14.7.23, *Ingoldby* 397.

Distr. X. and west to Italy. 1, 2, 2a, 3, 6a, 7, 7a.

Carduus pycnocephalus *L.* Sp. Pl. ed. 2, 1151 (1763).

Kilia, common, 12.5.23, *Ingoldby* 172; Kilia, pale mauve flowers, 24.4.24, *Durham* 17.

Distr. V. and XII. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 7, 8, 8a, 11, 13, 14, 15, 16.

Carlina graeca *Heldr. et Sart.* ex Boiss. Fl. Or. iii. 449 (1875).

Kilia, Aug. 1923, *Ingoldby* 557.

Distr. XX. 2, 2a, 3, 3b, 5, 6a, 7a.

C. lanata *L.* Sp. Pl. 828 (1753).

Suvla, sand dunes, 5.8.23, *Ingoldby* 542.

Distr. VI. 1, 2, 2a, 3, 4, 4a, 5, 6a, 7, 14, 15.

Carthamus dentatus *Vahl.* Symb. i. 69 (1790).

Kilia, Aug. 1923, *Ingoldby* 556.

Distr. VI. 1, 2, 3, 3a, 3b, 6, 6a, 6b, 7, 7a, 8a, 8b.

Centaurea diffusa *Lamk.* Encycl. i. 675 (1783).
Near Gaba Tepe, close to the beach, 10.6.23, *Ingoldby* 320 ; Angadere, 18.7.23, *Ingoldby* 458 ; Kilia, Aug. 1923, *Ingoldby* 554.
Distr. X. and XIII. 3, 3a, 6, 6a, 6b, 7, 8, 8a, 8b, 9, 16.

C. salonitana *Vis.* in Flora xii. i. Erg. 23 (1829) var. **macrantha** *Boiss. et Heldr.* Diagn. Ser. II. iii. 78 (1856).
Maidos, 14.7.23, *Ingoldby* 374.
Distr. (of var.) XX. 1, 2, 3b, 6a, 7.

C. solstitialis *L.* Sp. Pl. 917 (1753).
Maidos, 15.6.23, *Ingoldby* 339 ; Kilia, Aug. 1923, *Ingoldby* 555.
Distr. III. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

C. spinosa *L.* Sp. Pl. 912 (1753) var. **tomentosa** *Hal.* in Bull. Herb. Boiss. vi. 634 (1898).
Kilia, 8.7.23, *Ingoldby* 400 ; Suvla and Anzac, in bud, 16.5.24, *Kett* 107.
Distr. (of species) X. 1, 2, 2a. The variety probably to be found throughout the species area.

C. Triumfetti *All.* Fl. Pedem. i. 158 (1785).
Helles, 28.5.23, *Ingoldby* 267.
Distr. XII. 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 15, 16.

Chondrilla juncea *L.* Sp. Pl. 796 (1753).
Yalova, 30.6.23, *Ingoldby* 391.
Distr. III. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

Chrysanthemum coronarium *L.* Sp. Pl. 890 (1753).
Maidos, in a gully, 18.5.23, *Ingoldby* 209, with large capitula, and 14.7.23, *Ingoldby* 370 ; Kilia, 25.4.24, *Durham* 118, with paler yellow ray florets ; Kilia, 24.4.24, *Durham* 97, with darker yellow ray florets.
Distr. V. 1, 2, 2a, 4a, 6a, 7, 14, 15.

C. segetum *L.* Sp. Pl. 889 (1753).
Maidos, in a gully, 18.5.23, *Ingoldby* 208 ; Kilia, 24.4.24, *Durham* 96.
Distr. VI. and XVIII. 1, 2, 2a, 3, 4, 4a, 6a, 7, 14.

Cichorium intybus *L.* Sp. Pl. 813 (1753) var. **glabratum** *G. et G.* Fl. Fr. ii. 286 (1850). *Cichorium glabratum* Presl Fl. Sic. i. p. xxxii. (1826).
Helles, 27–28.5.23, *Ingoldby* 240 ; Angadere, 18.7.23, *Ingoldby* 461.
Distr. III. 1, 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Crupina vulgaris *Cass.* Dict. Sci. Nat. xii. 68 (1818). *Centaurea crupina* L. Sp. Pl. 909 (1753).

Kilia, common, 4.5.23, *Ingoldby* 141 ; Anzac, in flower, 20.5.23, *Kett* 25.

Distr. III. 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 16.

Diotis maritima *Smith* Engl. Flora iii. 403 (1825). *Filago maritima* L. Sp. Pl. 927 (1753).

Kara Kova Dere, salt marsh, 30.7.23, *Ingoldby* 525.

Distr. VI. 1, 2, 2a, 3, 6a, 6b, 7, 14.

Echinops microcephalus *S. et S.* Prodr. ii. 209 (1813). *E. lanuginosus* S. et S. Fl. Gr. x. 18, t. 925 (1840).

Near Gaba Tepe, close to the beach, in bud, 10.6.23, *Ingoldby* 316 ; Kilia and Angadere, common, *Ingoldby* 559.

Distr. X. 2, 3, 6, 6a, 6b, 7, 8, 8a, 8b, 10.

Erigeron canadensis *L.* Sp. Pl. 863 (1753).

Suvla, sand dunes, 5.8.23, *Ingoldby* 543.

Distr. I. 2, 2a, 3, 4, 4a, 5, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

Filago germanica *L.* Sp. Pl. ed. 2, 1311 (1763) var. **eriocephala** *Boiss.* Fl. Or. iii. 245 (1875). *Filago eriocephala* Guss. Pl. Rar. 344, t. 59 (1826).

Near Angadere, in open oak scrub, 27.7.23, *Ingoldby* 477.

Distr. III. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 7a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Hedypnois cretica *Willd.* Sp. Pl. iii. 1617 (1804), sensu Boiss. Fl. Or. iii. 719 (1875). *Hyoseris cretica* L. Sp. Pl. 810 (1753).

Kilia, common on dry hill-sides, in flower and fruit, 2–3.5.23, *Ingoldby* 134 ; Suvla, 24.4.24, *Durham* 43, the host of *Orobanche Mutelii* F. Sch.

Distr. V. 1, 2, 2a, 3, 4, 4a, 5, 6a, 7, 8a, 11, 14, 16.

The plants collected by Ingoldby are more hairy than often in this species and agree closely with the description of *Hedypnois crepidiformis* Reichb. Fl. Germ. Excurs. 250 (1830–32). *H. cretica* (L.) Willd. sensu Boiss. is a polymorphic species, in that various combinations of characters are found in different individuals.

Helichrysum siculum *Boiss.* Fl. Or. iii. 229 (1875). *Gnaphalium siculum* Spreng. Syst. iii. 476 (1826).

Kilia, common on steep dry hillsides and cliff faces, 4.5.23, *Ingoldby* 153.

Distr. X. 1, 2, 2a, 4a.

Hieracium Bauhinii *Schult.* Obs. Bot. 164 (1809).

Helles, 27–28.5.23, *Ingoldby* 253.

Distr. X. and XII. 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Inula germanica *L.* Sp. Pl. 883 (1753).
Angadere, 22–24.7.23, *Ingoldby* 439.
Distr. X. and XII. 3, 3a, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12.

Jurinea consanguinea *DC.* Prodr. vi. 676 (1837). *J. anatolica* Boiss. Diagn. Ser. I. iv. 21 (1844) var. *consanguinea* Boiss. Fl. Or. iii. 574 (1875).

Helles, common, 28.5.23, *Ingoldby* 264; Suvla and Anzac, 25.5.24, *Kett* 108.
Distr. X. 2a, 7, 8b.

The oldest name for this species is *J. consanguinea*, but its subdivision into varieties is not yet satisfactorily accomplished. The indumentum and degree of asperity of the leaves, the branching or simplicity of the inflorescence, the length and squarrosity of the phyllaries, yield characters which appear in various combinations.

The specimens from the Gallipoli Peninsula are remarkable for the green, not white-tomentose, very asperous upper surfaces of the leaves, which are divided into relatively narrow segments. Other specimens at Kew with asperous upper surfaces to the leaves are from: Ile de Metelin (Mytilene), *Aucher-Eloy*, Dardanelles, *Calvert and Zohrab*, Kalymnos, *Forsyth Major*, Dardanelles, *Sintenis*, Chios, *Aucher-Eloy*.

Lactuca viminea *Presl* Fl. Cech. 160 (1819). *Prenanthes viminea* L. Sp. Pl. 797 (1753).
Angadere, 22–24.7.23, *Ingoldby* 438.
Distr. VI. and XII. 1, 2, 3, 3a, 3b, 4, 5, 6, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Leontodon tuberosus *L.* Sp. Pl. 799 (1753).
Kilia, common, 2–3.5.23, *Ingoldby* 136a.
Distr. VI. 1, 2, 2a, 3b, 4a, 5, 6, 6a, 7, 11, 13, 14, 15, 16.

Matricaria chamomilla *L.* Sp. Pl. 891 (1753).
Kilia, common and abundant, covers acres, 12.5.23, *Ingoldby* 169; Suvla and Anzac, 16.5.24, *Kett* 133.
Distr. III. 1, 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 14, 15, 16.

Pallenis spinosa *Cass.* Dict. Sci. Nat. xxxvii. 276 (1825). *Buphthalmum spinosum* L. Sp. Pl. 903 (1753).
Kilia, common, 24.5.23, *Ingoldby* 222.
Distr. IV. and V. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 7, 7a, 11, 13, 14, 15, 16.

Pterotheca bifida *Fisch. et Mey.* Ind. Hort. Petrop. n. 1736 (1837).
Helles, common, 23-24.4.23, *Ingoldby* 68; Kilia, 2–4.5.23, *Ingoldby* 136, 144; Suvla and Anzac, 16.5.24, *Kett* 132.
Distr. X. 1, 2, 3b, 4a, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 16.

Scolymus hispanicus *L.* Sp. Pl. 813 (1753).
Suvla beach, 8.6.23, *Ingoldby* 292a.
Distr. VI. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 11, 13, 14, 15, 16.

Scorzonera laciniata *L.* Sp. Pl. 791 (1753). *Podospermum laciniatum* DC. in Lamk. et DC. Fl. Fr. ed. 3, iv. 62 (1805).
Kilia, 2–3.5.23, *Ingoldby* 131.
Distr. V. and XII. 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 14, 15, 16.

S. lanata *M.B.* Fl. Taur. Cauc. ii. 237 (1808). *Leontodon lanatum* L. Amoen. iv. 287 (1759).
Kilia, common and abundant, 19 22.4.23, *Ingoldby* 43; Suvla and Anzac, 16.5.24, *Kett* 144.
Distr. XI. 2, 6a, 7, 8a.

Sonchus Nymanii *Tin. et Guss.* Syn. ii. 860 (1844). *S. glaucescens* Jord. Obs. v. 75, t. 5 (1847).
Kilia, common and said to be eaten by the Turks, 2–3.5.23, *Ingoldby* 129, determination not certain owing to the material being incomplete; between Songaule Dere and Jam Baz Dere, 8–11.5.23, *Ingoldby* 190.
Distr. XI. 1, 2, 2a, 3, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 14.

Taraxacum serotinum *Poir.* in Lamk. Encycl. Suppl. iv. 420 (1816).
Angadere, grassy clearing near the summit of Hill 1011, 29.7.23, *Ingoldby* 492.
Distr. X. and XIVa. 6a, 8, 8a, 8b, 9, 10.

Tragopogon glaber *Hoffm.* in Engl. u. Prantl Pflanzenfam. iv. 5, 365 (1892). *Geropogon glaber* L. Sp. Pl. ed. 2, 1109 (1762).
Kilia, pale mauve flowers, 24.4.24, *Durham* 107.
Distr. V. 1, 2, 4a, 6a, 7, 12, 14.

T. porrifolius *L.* Sp. Pl. 789 (1753).
Helles, in fruit, 6.5.23, *Kett* 4; Angadere, in open oak scrub, 27.7.23, *Ingoldby* 486; Suvla and Anzac, 16.5.24, *Kett* 92.
Distr. VI. 1, 2, 2a, 3, 3b, 4, 4a, 6, 6a, 7, 8a, 13, 14, 16.

Xanthium spinosum *L.* Sp. Pl. 987 (1753).
Anzac, near the beach, August 1923, *Ingoldby* 560.
Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Xeranthemum foetidum *Moench.* Meth. 582 (1794). *X. cylindraceum* S. et S. Prodr. Fl. Gr. ii. 172 (1813).
Angadere, 24.7.23, *Ingoldby* 465.
Distr. VI. XIII. and XIVa. 2, 3, 3a, 3b, 4, 5, 6, 6a, 8, 8a, 8b, 9, 10, 11, 12, 13, 15, 16.

Asyneuma parviflora *Turrill* sp. nov.; ab *A. otites* (Boiss.) Bornm. in Beih. Bot. Centrlbl. xxxviii. 1921, 2, 347, floribus fructibusque minoribus receptaculo (ovario) omnino laeve epapilloso distinguitur.

Herba erecta. *Radix* crassa. *Caules* teretes, minute asperulo-puberuli deinde glabrescentes. *Foliorum* basilium laminae anguste oblanceolatae vel angustissime oblanceolato-lineares, apice acutiusculae, basi in petiolum gradatim angustatae, usque ad 4 cm. longae et 7 mm. latae, margine fere integrae vel inconspicue dentatae minute asperulo-ciliatae, fere glabrescentes; petioli usque ad 4·5 cm. longi; folia caulina superne gradatim in bracteas transientia. *Inflorescentia* 1·5–7 cm. longa, multiflora; bracteae lineares, 2–3 mm. longae. *Sepala* uninervia, oblongo-lanceolata, 1·75 mm. longa, 0·75 mm. lata, acuta. *Corolla* circiter 5 mm. longa, lobis lineari-lanceolatis acutis. *Stylus* 5 mm. longus, apice in stigmatibus brevibus divisus, superne minutissime puberulus. *Receptaculum* (ovarium) breviter obconicum, 1 mm. altum, 1 mm. diametro, glabrum, longitudinaliter costatum. *Capsula* vix 4 mm. alta, 2 mm. dimeatro, omnino glabra, nitens, longitudinaliter valde costata. *Semina* late compresso-ellipsoidea, fere 1 mm. longa et 0·7 mm. lata, laevissima, nitentia.

Angadere, 1.7.23, *Ingoldby* 359,360; Angadere, 15.7.23, *Ingoldby* 365; Biyick Yakajik Tepe, 21.7.23, *Ingoldby* 426,427.

Asyneuma otites was originally described, as *Podanthum otites*, by Boissier [Fl. Or. iii. 952 (1875)] from specimens collected by Balansa "ad radices Tauri Cilicici circum pagum Gulek Boghas", and by Nordmann "Transcaucasia ad fines Turcicas." Prof. Chodat kindly loaned to Kew the sheet of two specimens, one flowering, one fruiting, collected by Balansa and used by Boissier in drawing up his description. It was evident that the Gallipoli plants represented a different, though closely related species. Boissier refers somewhat doubtfully (l.c. 953) to *P. otites* a flowering specimen collected by Wiedemann "ex Sojut et monte Kischichdagh Anatoliae bor." The sheet of Wiedemann's from this locality at Kew is, like that seen by Boissier, in flower and very young fruit. I do not feel quite certain about it, but I am inclined to consider it *Asyneuma parviflora* and not *A. otites*. The receptacle (ovary) is glabrous in a very young fruit which is present, and not provided with minute papillae.

A sheet of specimens, collected by P. Sintenis, Iter trojanum, No. 1144, 10.7.1883, and determined by P. Ascherson as *Podanthum otites* Boiss ?, is preserved at Kew and is certainly *Asyneuma parviflora*. The locality given is simply "Dardanelli: in montosis" and I have been unable to discover whether the specimens were collected in Europe or in Asia.

The measurements in the above diagnosis were taken from

Ingoldby's specimens, of which 359 may be considered the nomenclatural standard or "type." *Sintenis* 1144 is more luxuriant in all its parts. The leaves measure up to 2.3 dm. in length, including the petiole. The inflorescence is branched in the lower part and is 4.5 dm. long.

Campanula lyrata *Lamk.* Encycl. i. 588 (1784).

Jam Baz Dere, common in thick scrub-gullies and on shady hillsides, 8.5.23, *Ingoldby* 156; Helles, 14.5.23, *Kett* 12. *Distr.* X. 7.

Campanula macrostachya *Kit.* apud Willd. Enum. Hort. Berol. i. 213 (1809). *C. multiflora* W. et K. Pl. Rar. Hung. iii. 292, t. 263 (1812), vide Kit. Addit. in Linnaea xxxii. 429 (1863).

Angadere, 22–24.7.23, *Ingoldby* 433.
Distr. XIX. 6a, 7, 8, 8a, 8b, 9, 10, 11.

Legousia pentagonia *Thell.* in Vierteljahr. Naturf. Ges. Zurich lii. 465 (1907). *Campanula pentagonia* L. Sp. Pl. 169 (1753).

Kilia, common and abundant, occasionally in large carpets, 12.5.23, *Ingoldby* 168; Walker's Ridge, Anzac, 90 m., in flower 16.5.23, *Kett* 28; Suvla and Anzac, 16.5.24, *Kett* 119.
Distr. X. 1, 2a, 4a, 7.

The specimens under the last number are all depauperated, probably owing to the dryness of the habitat, and show a considerable range in the density of the indumentum. Two of the specimens with a close dense pubescence approach the *Specularia Speculum* var. *stricta* of Griseb. Spic. Fl. Rumel. ii. 279 (1844), which, in my opinion, should come under *Legousia pentagonia.*

Ericaceae.

Arbutus andrachne *L.* Sp. Pl. ed. 2, 566 (1762).

Between Sogaule Dere and Jam Baz Dere, 8–11.5.23, *Ingoldby* 177.
Distr. X. and to Crimea. 1, 2, 2a, 3, 3a, 4, 6b, 7, 8b.

Arbutus unedo *L.* Sp. Pl. 395 (1753).

Anzac and Suan Dere, common, Nov. 1922, *Kett* 85, the specimen representing a narrow-leaved plant; Angadere, in young fruit, 22–24.7.23, *Ingoldby* 442; Angadere, near Biyick Yakajik Tepe, in young fruit, Aug. 1923, *Ingoldby* 558.
Distr. VI. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 7, 7a, 13, 14, 15, 16.

Erica verticillata *Forsk.* Fl. Aegypt.-Arab. 210 (1775).

Anzac and Helles, common, 2–3 feet in height, in flower Nov. 1922, *Kett* 81; Kilia, 18.7.23, *Ingoldby* 453.
Distr. X. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6a, 6b, 7, 13, 14.

Plumbaginaceae.

Goniolimon collinum *Boiss.* Fl. Or. iv. 855 (1879). *Statice collina* Griseb. Spic. Fl. Rumel. ii. 300 (1844).

Maidos, cliff face, 18.5.23, *Ingoldby* 212; Anzac beach, May 1923, *Ingoldby* 212a; Anzac, in flower, 22.5.23, *Kett* 38; Gaba Tepe, close to the beach, 10.6.23, *Ingoldby* 323.

Distr. X. 6, 6a, 7, 8, 8a, 8b, 10.

Limonium vulgare *Mill.* Gard. Dict. ed. 8 (1768) var. **macrocladon** Salmon in Journ. Bot. xliii. 13 (1905). *Statice limonium* L. Sp. Pl. 274 (1753) var. *macroclada* Boiss. in DC. Prodr. xii. 645 (1848).

Near Anzac, middle of August 1923, *Ingoldby* 587.

Distr. (of var.) X. Probably the commonest variety in the B. P., where the species occurs in: 1, 2, 2a, 3, 4, 5, 6, 6a, 7, 9, 13, 14, 15, 16.

Limonium virgatum *Fourr.* in Ann. Soc. Linn. Lyon, N. S. xvii. 141 (1869) non vidi. *Statice virgata* Willd. Enum. Hort. Berol. i. 336 (1809).

Kara Kova Dere, in salt-marsh, 30.7.23, *Ingoldby* 519.

Distr. VI. 1, 2, 2a, 5, 6a, 7, 14.

Primulaceae.

Anagallis arvensis *L.* Sp. Pl. 148 (1753).

Helles, common, 23–24.4.23, *Ingoldby* 83; Suvla, 24.4.24, *Durham* 64a.

Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6a, 7, 8, 8a, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

A. arvensis *L.* var. **carnea** *Schrank* ex Druce List Brit. Pl. 48 (1908). *A. carnea* Schrank, Baier. Fl. i. 461 (1789). *A. amoena* Heldr. Herb. Norm. 1174 et Hal. Consp. Fl. Gr. iii. 11 (1904).

Suvla, 24.4.24, *Durham* 64b.

Distr. (of var.). Here and there over the distributional area of the species, but much rarer than other varieties.

A hybrid origin for this is suggested by Pax and Knuth in Engler, Pflanzenr. iv. 237, 324 (1905) and by Halácsy, l.c. It is doubtful if this can be proved, as indicated in the Kew Bulletin 1918, 321, and Journal of Botany xlix. 44 seq. (1911).

A. foemina *Mill.* Gard. Dict. ed. 8 (1768). *A. caerulea* Schreb. Spic. Lips. 5 (1771).

Kilia, common and abundant, 23–24.4.23, *Ingoldby* 44; Suvla, 24.4.24, *Durham* 64c.

Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Lysimachia dubia *Soland.* in Ait. Hort. Kew i. 199 (1789).

Boghali, growing in a shady gorge by a fountain, 24.7.23, *Ingoldby* 473.

Distr. XI. 2, 3b, 5, 6, 6a, 8a.

STYRACEAE.

Styrax officinalis *L.* Sp. Pl. 444 (1753).

Boghali, a shrub 4 to 5 feet in height with white flowers in early spring, fruit collected in Oct. 1922, *Kett* 69; Boghali, 17.5.23, *Ingoldby* 199; Kilia, in bud, 24.4.24, *Durham* 104; Suvla and Anzac, in flower, 16.5.24, *Kett* 145.

Distr. VI. 1, 2, 2a, 7, 14.

OLEACEAE.

Jasminum fruticans *L.* Sp. Pl. 7 (1753).

Kilia, yellow flowers, 24.4.24, *Durham* 106.

Distr. V. 2, 3, 3a, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 15.

Olea europaea *L.* Sp. Pl. 8 (1753).

Eski Keui, 3.6.23, *Ingoldby* 286.

Distr. V. 1, 2, 2a, 3, 4, 5, 6, 7, 7a, 11, 13, 14, 15, 16.

Phillyrea media *L.* Syst. ed. 10, 847 (1759).

Walker's Ridge, Anzac, 90 m., 1 to 4 feet in height, *Kett* 3; Anzac, an evergreen shrub, Nov. 1922, *Kett* 80; Angadere, in fruit end of July 1923, *Ingoldby* 578.

Distr. VI. 1, 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8a, 11, 14, 15, 16.

ASCLEPIADACEAE.

Cynanchum acutum *L.* Sp. Pl. 212 (1753).

Maidos, 14.6.23, *Ingoldby* 331; Angadere, 15.7.23, *Ingoldby* 383; Suvla, on sand dunes between the salt-marsh and the beach, 5.8.23, *Ingoldby* 546.

Distr. III. 2, 2a, 3, 3a, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 14, 15, 16.

No. 331 represents a plant with relatively large, broad leaves; the corona lobes are well developed, long and acuminate; the stamens are short, excluding the terminal appendage, 0.75 mm. long. Nos. 383 and 546 are from plants with relatively smaller and narrower leaves; the corona lobes are shorter; the stamens excluding the terminal appendage, are 1.25 mm. long.

Marsdenia erecta *R. Br.* Mem. Wern. i. 29 (1811). *Cynanchum erectum* L. Sp. Pl. 213 (1753).

Suan Dere, near a waterfall, 5 to 6 feet in height, in fruit, Nov. 1922, *Kett* 83; Helles, 28.5.23, *Ingoldby* 250; Suvla, 8.6.23, *Ingoldby* 294a.

Distr. X. and XI. 1, 2, 2a, 3, 5, 6, 6a, 7, 8a, 8b, 11.

Capt. Ingoldby informs me that this species, as it grows in Gallipoli Peninsula, is only erect when in quite small plants. When growing as fair-sized bushes, generally on the banks of narrow, steep shady gullies, it tends to trail.

Periploca graeca *L.* Sp. Pl. 211 (1753).

Boghali, in fruit, 8.7.23, *Ingoldby* 411; Angadere, ripe seed-pod, 4.4.23, *Ingoldby* 417.

Distr. X. and XI. 1, 2, 4a, 5, 6a, 6b, 7, 8, 9, 11, 14, 15.

Apocynaceae.

Apocynum venetum *L.* Sp. Pl. 213 (1753).

Near Gaba Tepe, rare and local, at the foot of a steepish sandy cliff, 10.6.23, *Ingoldby* 304.

Distr. III. 7, 9, 16.

The flowers fade blue and have a sweet smell.

Gentianaceae.

Blackstonia perfoliata *Huds.* Fl. Angl. ed. 1, 146 (1762).

Angadere, 18.7.23, *Ingoldby* 471.

Distr. IV. and VI. 1, 2, 2a, 4a, 5, 6, 6a, 7, 8, 10, 11, 13, 14, 15, 16.

Capt. Ingoldby's plants have small flowers and very short calyx segments. A careful examination of all the material of the genus at Kew has convinced me that they must be considered as extreme examples of the widespread species, which shows a considerable range in the shape and size of its parts, without doubt due largely to fluctuation according to the nature of the habitat. It is, however, probable that uncorrelated germinal mutations occur but are reabsorbed into the species, since there is no evidence that they persist in an isolated condition sufficiently long to establish a distinct entity. Floral dimorphism is shown in the specimens collected by Capt. Ingoldby. Flowers dissected from one specimen showed either long anthers linear in outline or short ones narrowly ovate in outline.

Centaurium maritimum *Fritsch* in Mitt. Naturwiss. Ver. Wien, v. 97 (1907), non vidi. *Gentiana maritima* L. Mant. prima i. 55 (1767). *Erythraea maritima* Pers. Syn. i. 283 (1805).

Suvla, 27–28.5.23, *Ingoldby* 242.

Distr. VIII. and Western Europe. 1, 2, 4a, 5, 6b, 7, 11, 14, 15, 16.

C. pulchellum *Druce* in Ann. Scot. Nat. Hist. 1907, 242. *Gentiana pulchella* Sw. in Vet. Acad. Handl. 1783, 85, t. 3. *Erythraea pulchella* Fr. Nov. Fl. Suec. ed. 1, 30, non vidi, ed. 2, 74 (1828).

Kilia, 16.5.23, *Ingoldby* 198; Helles, in flower, 24.5.23, *Kett* 47; Angadere, 21.7.23, *Ingoldby* 420.

Distr. IV. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

C. spicatum *Fritsch* in Mitt. Naturwiss. Ver. Wien, v. 97 (1907), non vidi. *Gentiana spicata* L. Sp. Pl. 230 (1753). *Erythraea spicata* Pers. Syn. i. 283 (1805).

Kara Kova Dere, salt marsh, 30.7.23, *Ingoldby* 518; Suvla, sand dunes, 5.8.23, *Ingoldby* 545.

Distr. VI. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 7, 8a, 9, 11, 14, 16.

C. subspicatum *Ronn.* in Fritsch Neue Beitr. Fl. Balkan-Halbinsel in Mitt. Naturwiss. Ver. f. Steiermark, lii. 321 (1915). *Erythraea subspicata* Vel. in Sitz. Böhm. Ges. Wiss. 1889, ii. 37 (1890) et Fl. Bulg. 385 (1891).

Soganlederc, in flower, 10.7.23, *Ingoldby* 416 ; Angadere, 24.7.23, *Ingoldby* 470.

Distr. XX. 8.

The specimens have been determined from the description in the Flora Bulgarica. The essential characters given agree well with those shown in Ingoldby's specimens, except that the lower leaves are rounded at the apex.

C. tenuiflorum *Fritsch* in Mitt. Naturwiss. Ver. Wien, v. 97 (1907), non vidi. *Erythraea tenuiflora* Hoffm. et Link, Fl. Port. i. 354, t. 67 (1809).

Suvla, sand dunes, common, in pink and white varieties, 8.6.23, *Ingoldby* 299, 300 ; near Gaba Tepe, close to the beach, 10.6.23. *Ingoldby* 320 ; Angadere, 1.7.23, *Ingoldby* 343.

Distr. VIII. 1, 2, 3, 4, 4a, 5, 6a, 6b, 7, 11, 14, 16.

C. umbellatum *Gilib.* Fl. Lithuan. i. 35 (1785), non vidi. *Gentiana centaurium* L. Sp. Pl. 229 (1753). *Erythraea centaurium* Pers. Syn. i. 283 (1805).

Kilia, 3.6.23, *Ingoldby* 278 ; Angadere, 1.7.23, *Ingoldby* 344.

Distr. IV. and V. 1, 2, 2a, 3, 4, 5, 6, 6a, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

C. sp.

Maidos, 15.6.23, *Ingoldby* 340.

This has not been matched, but the material is unfortunately insufficient for a good description. The corolla-tubes are remarkably short, relative to the large lobes and much exserted stamens.

Convolvulaceae.

Convolvulus elegantissimus *Mill.* Gard. Dict. ed. 8 (1768). *C. tenuissimus* S. et S. Prodr. i. 134 (1806) et Fl. Gr. ii. t. 195 (1813).

Boghali, common on all dry open hill-sides, 29.4.23, *Ingoldby* 127 ; Jam Baz, 8.5.23, *Ingoldby* 164 ; Walker's Ridge, Anzac, 90 m., 16.5.23, *Kett* 23 ; Angadere, 1.7.23, *Ingoldby* 351 ; Kara Kova Dere, on steep sandy quarry face, 30.7.23, *Ingoldby* 513 ; Suvla, 24.4.24, *Durham* 29 ; Suvla and Anzac, 16.5.24, *Kett* 122.

Distr. VI. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 6b, 7, 7a, 11, 13, 14, 15, 16.

C. hirsutus *Stev.* in M. B. Fl. Taur.-Cauc. i. 422 (1808).

Anzac, 27–28.5.23, *Ingoldby* 246.

Distr. XI. 1, 2, 3, 4a, 6a, 6b, 7, 8a, 8b, 10.

C. pilosellaefolius *Desr.* in Lamk. Encycl. iii. 551 (1791).

Angadere, at the head of the valley, overlooking Karnabile, in flower, 22–24.7.23, *Ingoldby* 431.

The leaves are somewhat narrower than in most plants of this species, but the distinctive calyces are quite typically developed.
Distr. XI.

BORRAGINACEAE.

Alkanna tinctoria *Tausch* in Flora 1824, i. 234. *Lithospermum tinctorium* L. Sp. Pl. 132 (1753).

Kilia, common on dry hillsides, late March, *Ingoldby* 9a; between Sogaule Dere and Jam Baz Dere, 8–11.5.23, *Ingoldby* 176; Kara Kova Dere, 30.7.23, *Ingoldby* 514.
Distr. VI. 1, 2, 2a, 3, 4a, 5, 6, 6a, 7, 7a, 8a, 11, 13.

Anchusa hybrida *Ten.* Fl. Nap. i. 45, t. 11. (1811–1815).

Kilia, 19–22.4.23, *Ingoldby* 51; Angadere, 15.7.23, *Ingoldby* 368; Angadere, near the stream, 21.7.23, *Ingoldby* 418; a grassy clearing on the summit, 29.7.23, *Ingoldby* 490; Ibrahim Keir, 30.7.23, *Ingoldby* 530; Western Peninsula, an erect branching plant with royal purple flowers, 24.4.24, *Durham* 79.
Distr. VI. but not west of Corsica and Sardinia. 1, 2, 2a, 3, 4, 4a, 5, 6a, 7, 8, 8a, 8b, 10, 11.

A. italica *Retz.* Obs. i. 12 (1779).

Kilia, common and abundant, 24.5.23, *Ingoldby* 231; Maidos, 14.7.23, *Ingoldby* 380; Kilia, deep gentian blue, 24.4.24, *Durham* 11.
Distr. V. 1, 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

A. officinalis *L.* Sp. Pl. 133 (1753). ?

Anzac, 27.5.23, *Ingoldby* 254.
Distr. IV. and V. 2, 3, 3a, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 15, 16.

The material is insufficient for me to be certain of this determination.

Borrago officinalis *L.* Sp. Pl. 137 (1753).

Helles, rare, growing in a shell-hole on the flat ground above the gully, 23–24.4.23, *Ingoldby* 69.
Distr. VI. and XII. 1, 2, 2a, 6a, 7, 9, 14, 15, 16.

Cerinthe major *L.* Sp. Pl. 136 (1753).

Helles, among thick low vegetation, in a ravine, 23–24.4.23, *Ingoldby* 74; Anzac, May 1923, *Kett* 34.
Distr. V. and XII. 1, 2, 2a, 4a, 5, 6a, 7, 14, 15.

Cerinthe minor *L.* Sp. Pl. 137 (1753) var. **hispida** *Turrill* var. nov., pedicellis hispidis.

Angadere, 22–24.7.23, *Ingoldby* 450.
Distr. (of species) V. and XII. 1, 2, 3a, 3b, 4, 5, 6a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

The widely distributed species, *C. minor*, shows, as might be expected, a considerable range of expression of certain characters.

The presence or absence of hairs on the pedicels has not, so far as I have found, hitherto been commented upon by systematists. The specimens collected by Capt. Ingoldby have the pedicels markedly hispid, with stiff spreading white hairs. An examination of the rich material of this species at Kew indicates that plants showing this character have a certain geographical distribution. The greater number of specimens from the eastern part of the Mediterranean Region, from Asia Minor, Armenia, Kurdistan, and Syria, have hispid pedicels. In the Caucasus, plants with hispid pedicels and plants with glabrous pedicels occur. From the western side of the Balkan Peninsula specimens have been received with glabrous pedicels from Serbia, near Nish; Herzegovina, near Mostar; Dalmatia, near Cattaro; and from the Trieste district, Lippiza wood. Plants with hispid pedicels were collected in Macedonia, near Veles; Bulgaria, near Sliven; Dobruja, near Malkodz. From Greece, the specimens named *C. cleiostoma* Boiss. et Sprun. have glabrous pedicels, those named *C. macrophylla* Boiss. et Heldr. have the pedicels slightly hispid to glabrous. All the Kew specimens from the central and western parts of the Mediterranean Region and from Central Europe have glabrous pedicels. The geographical separation of the two variants is not complete for, in addition to both occurring in Greece and the Caucasus, a specimen from Mt. Ida, S. Troad, and specimens from Asia Minor, *Aucher* 2346, not exactly localized but the original number of var. ? *ciliaris* DC. Prodr. x. 3 (1846), have glabrous pedicels.

Cynoglossum creticum *Mill.* Gard. Dict. ed. 8 (1768). *C. pictum* Ait. Hort. Kew. i. 179 (1789).

Helles, 28.5.23, *Ingoldby* 271; Suvla, pale blue-veined flowers, 24.4.24, *Durham* 47.

Distr. V. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 7, 8, 8a, 10, 11, 12, 13, 14, 15, 16.

Echium elegans *Lehm.* Pl. Asper. 459 (1818).

Angadere, in a shady valley, flowers pale blue, 22–24.7.23, *Ingoldby* 447.

Distr. X. 1, 2, 2a.

E. italicum *L.* Sp. Pl. 139 (1753).

Kilia, common and abundant, growing to a height of 3 feet 6 ins. or more, 24.5.23, *Ingoldby* 229.

Distr. V. 1, 2, 2a, 3, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

E. plantagineum *L.* Mantissa altera 202 (1771).

Between Sogaule Dere and Jam Baz Dere, common and abundant, 8–11.5.23, *Ingoldby* 174, 188; Kilia, 24.4.24, purple flowers, *Durham* 95.

Distr. VI. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 14.

Heliotropium dolosum *De Not.* Rep. Fl. Lig. 318 (1846).
Kilia, Aug. 1923, *Ingoldby* 582.
Distr. III. 2, 2a, 3, 3a, 6a, 8a.

Lithospermum apulum *Vahl.* Symb. ii. 33 (1791). *Myosotis apula* L. Sp. Pl. 131 (1753).
Suvla, small yellow flowers, 24.4.24, *Durham* 56.
Distr. V. 1, 2, 2a, 6, 6a, 7, 8a, 10, 14, 16.

L. arvense *L.* Sp. Pl. 132 (1753).
Helles, 23–24.4.23, *Ingoldby* 94; Kilia, white flowers, 24–25.4.24, *Durham* 25, 116.
Distr. III. 1, 2, 2a, 3, 4, 4a, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

L. purpureo-coeruleum *L.* Sp. Pl. 132 (1753).
Angadere, local, in thick scrub, early April, *Ingoldby* 10; and in deep shade, 29.4.23, *Ingoldby* 120.
Distr. V. and XII. 2, 3, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Myosotis collina *Hoffm.* Deutschl. Fl. 61 (1791) non vidi, ed. nov. Pars. i. Sectio i. 85 (1800).
Anzac, 22.4.24, *Durham* 9.
Distr. V. and XII. 1, 2, 2a, 3, 3b, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 14, 15, 16.

M. idaea *Boiss. et Heldr.* Diagn. Ser. I. xi. 121 (1849).
Kilia, common, middle of March 1923, *Ingoldby* 11; Helles, 24.5.23, *Kett* 14.
Distr. X. 1, 2, 2a, 6, 6a, 6b, 7, 8, 8a, 11.

Onosma viride *Javorka* in Annal. Mus. Nat. Hung. iv. 433 (1906).
Between Sogaule Dere and Jam Baz Dere, in flower, 8–11.5.23, *Ingoldby* 178; Suvla and Anzac, 16.5.24, *Kett* 91.
Distr. XIX. 2, 3b, 5, 6a, 6b, 8, 8a, 8b, 10, 13, 14.

Solanaceae.

Hyoscyamus niger *L.* Sp. Pl. 179 (1753).
Kilia, 4 and 12.5.23, *Ingoldby* 137, 166.
Distr. III. 1, 2, 3, 3b, 4, 4a, 6, 6a, 7, 8, 8a, 9, 10, 10a, 11, 12, 13, 15, 16.

H. reticulatus *L.* Sp. Pl. ed. 2, 257 (1762).
Kilia, common, 23–24.4.23, *Ingoldby* 106.
Distr. XI.
Hal. Consp. Fl. Gr. ii. 364 (1902) states that though Linnaeus indicates this species from Crete it has not been found by recent collectors.

Lycium europaeum *L.* Sp. Pl. 192 (1753).
Helles, shrub 3 to 4 feet in height, flowers mauve, Nov. 1922, *Kett* 75.
Distr. V. 2, 3, 4, 4a, 5, 7, 14, 16.

Lycopersicum esculentum *Mill.* Gard. Dict. ed. 8 (1768).
Sestas, 7.7.23, *Ingoldby* 414.
Distr. Often found as an escape from cultivation.

Solanum dulcamara *L.* Sp. Pl. 185 (1753).
Boghali, in stream bed, 8.7.23, *Ingoldby* 401.
Distr. III. 2, 2a, 3, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

S. nigrum *L.* Sp. Pl. 186 (1753).
Kilia, 11.8.23, *Ingoldby* 553.
Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

SCROPHULARIACEAE.

Bellardia trixago *All.* Fl. Pedem. i. 61 (1785). *Bartsia trixago* L. Sp. Pl. 602 (1753).
Eski Keui, common, 13.5.23, *Ingoldby* 173; Helles, 14.5.23, *Kett* 59.
Distr. V. and S. Africa. 1, 2, 2a, 3, 4a, 5, 6, 6a, 6b, 7, 8a, 13, 14, 16.

Digitalis lanata *Ehrh.* Beitr. vii. 152 (1792).
Anzac, 20.5.23, *Kett* 22; Kilia, 22.5.23, *Ingoldby* 219.
Distr. XIX. 2, 3, 4, 6, 6a, 6b, 7, 7a, 8, 8a, 8b, 9, 10, 10a, 12.

Gratiola officinalis *L.* Sp. Pl. 17 (1753).
Angadere, 15.7.23, *Ingoldby* 367.
Distr. III. 2, 3, 3b, 4, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Linaria genistifolia *Mill.* Gard. Dict. ed. 8 (1768). *Antirrhinum genistifolium* L. Sp. Pl. 616 (1753).
Anzac, in flower, 20.5.23, *Kett* 15.
Distr. III. 3, 3b, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 15.

L. pelisseriana *Mill.* Gard. Dict. ed. 8 (1768). *Antirrhinum pelisserianum* L. Sp. Pl. 615 (1753).
Helles, on open hillsides, 23.4.23, *Ingoldby* 61; Suvla, 24.4.24, *Durham* 3.
Distr. VI. 1, 2, 2a, 3, 3b, 4, 4a, 5, 6, 6a, 6b, 7, 8a, 8b, 10, 11, 13, 14, 16.

Parentucellia latifolia *Car.* in Parl. Fl. It. vi. 480 (1885).
Kilia, Aug. 1923, *Ingoldby* 582a.
Distr. V. 1, 2, 2a, 3, 3a, 4a, 5, 6, 6a, 6b, 7, 8, 8a, 10, 14, 16.

Scrophularia canina *L.* Sp. Pl. 621 (1753).
Anzac, 16.5.23, *Kett* 10 ; Helles, rare, a sub-shrub 2 feet in height, 28.5.23, *Ingoldby* 259.
Distr. IV. and VI. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 15, 16.

Verbascum pinnatifidum *Vahl.* Symb. ii. 39 (1791).
Near Gaba Tepe, close to the beach, 10.6.23, *Ingoldby* 305 ; Kara Kova Dere, 31.7.23, *Ingoldby* 533.
Distr. X. 2, 2a, 3, 6b, 7.

V. sinuatum *L.* Sp. Pl. 178 (1753).
Angadere, 15.7.23, *Ingoldby* 366.
Distr. V. 1, 2, 2a, 3, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 11, 14, 16.

Veronica acinifolia *L.* Sp. Pl. ed. 2, 19 (1762).
Kilia, common, 19–22.4.23, *Ingoldby* 39.
Distr. XI. and XII. 1, 2, 3, 6b, 7, 8a, 10, 13, 14, 16.

V. anagallis *L.* Sp. Pl. 12 (1753).
Kara Kova Dere, 30 m., 30.7.23, *Ingoldby* 511.
Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 10, 11, 12, 13, 14, 15, 16.

V. chamaepitys *Griseb.* Spic. Fl. Rumel. ii. 25 (1844).
Helles, common, 23–24.4.23, *Ingoldby* 80.
Distr. X. 7, 8a.

Orobanchaceae.

Orobanche minor *Sutton* in Trans. Linn. Soc. iv. 179 (1798).
Eski Keui, local, 18.5.23, *Ingoldby* 200.
Distr. II. 2, 2a, 4a, 6a, 7, 8, 8a, 8b, 10, 11, 14, 15, 16.

O. Mutelii *F. Schultz* in Mutel, Fl. Franç. ii. 353 (1835).
Suvla, 24.4.24, *Durham* 43. Parasitic on *Hedypnois cretica* Willd.
Distr. V., XIII. and XVIII. 1, 2, 2a, 4, 6a, 7, 8, 10, 11, 12, 13, 14, 16.

O. nana *Noé* ex Reut. in DC. Prodr. xi. 9 (1847).
Kilia, brilliant blue flowers, 24.4.24, *Durham* 73.
Distr. V. and XVIII. 2, 2a, 4, 4a, 6a, 7, 10, 11, 14, 15, 16.

Verbenaceae.

Verbena officinalis *L.* Sp. Pl. 20 (1753).
Kara Kova Dere, 30 m., 30.7.23, *Ingoldby* 510.
Distr. I. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 8b, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Vitex agnus-castus *L.* Sp. Pl. 638 (1753).
Anzac, shrub 6 feet in height, flowers mauve and white, 18.10.22, *Kett* ; Kilia, 8.7.23, *Ingoldby* 405, 406.
Distr. V. 1, 2, 2a, 3, 4, 4a, 5, 6a, 6b, 7, 7a, 8b, 11, 13, 14, 15, 16.

Labiatae.

Ajuga chamaepitys *Schreb.* Pl. Verticill. Unilab. 24 (1774).
Teucrium chamaepitys L. Sp. Pl. 562 (1753).

Helles, common, yellow flowers, Nov. 1922, *Kett* 76 ; Kilia, 19–22.4.23, *Ingoldby* 59 ; Suvla, 24.4.24, *Durham* 7.
Distr. V. and XII. 2, 2a, 3, 4, 5, 6, 6a, 7, 8, 8a, 8b. 9. 10, 11. 12. 13, 14, 15, 16.

I confess to being able to draw no sharp line between *A. chamaepitys* (L.) Schreb. and *A. chia* (Poir.) Schreb. The former is, on the whole, West European and North African, the latter South-East European and Oriental. Both occur in the Balkan Peninsula and various kinds of intermediates are found. The specimens collected by Kett and Ingoldby have not the relatively large corollas of the typically Oriental *A. chia*, but very closely match western specimens of *A. chamaepitys*. On the other hand I cannot distinguish Durham's fine specimen from *A. chia* of the Orient, except that it appears to be annual.

Ballota nigra *L.* Sp. Pl. 582 (1753).
Angadere, 22–24.7.23, *Ingoldby* 449.
Distr. IV. and V. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6a, 8, 8a, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

Calamintha vulgaris *Druce* in Ann. Scot. Nat. Hist. 1906, 224. *Clinopodium vulgare* L. Sp. Pl. 587 (1753).
Angadere, in open oak scrub, 22–28.7.23, depauperated plants, *Ingoldby* 435, 489.
Distr. III. 1, 2, 3, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

Coridothymus capitatus *Reichb. fil.* in Oestr. Bot. Wochenbl. vii. 161 (1857). *Satureia capitata* L. Sp. Pl. 568 (1753).
Common at Anzac, Suvla, and Helles, 1 foot high, flowers mauve, Nov. 1922, *Kett* 77 ; Kilia, a beautiful shrub, common and abundant on all open hillsides where *Cistus* grew, 8.7.23, *Ingoldby* 399.
Distr. VI. 1, 2, 2a, 3, 4a, 5, 7, 7a, 14, 15.

Lamium amplexicaule *L.* Sp. Pl. 579 (1753).
Helles, open hillsides, 23.4.23, *Ingoldby* 63 ; Suvla, pink flowers, 24.4.24, *Durham* 38.
Distr. III. 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

Lavandula stoechas *L.* Sp. Pl. 573 (1753).
Helles, local, 23–24.4.23, *Ingoldby* 95 ; Suvla, 16.5.24, *Kett* 124.
Distr. VI. 1, 2, 2a, 4a, 7.

Marrubium peregrinum *L.* Sp. Pl. 582 (1753).
Kilia, 8.7.23, *Ingoldby* 398.
Distr. XII. and XIVa. 1, 2, 3, 3b, 4, 6, 6a, 7, 8, 8a, 9, 10, 15.

Mentha microphylla *C. Koch* in Linnaea xxi. 650 (1848).
Kilia, 8.7.23, *Ingoldby* 403.
Distr. XI. and west to Italy. 1, 2, 3, 6, 6a, 7, 7a, 8, 8a, 11.

Micromeria graeca *Benth.* Lab. 373 (1834). *Satureia graeca* L. Sp. Pl. 568 (1753), var. **villicaulis** *Borb.* ap. Formanek in

Ver. Brünn. 1895, 35, non vidi ; Hal., Consp. Fl. Gr. ii. 549 (1902) ; Vandas, Reliq. Formanek. 483 (1909).

Boghali, 8.7.23, *Ingoldby* 389 ; Angadere, in the valley, 29.7.23, *Ingoldby* 496.

Distr. (of var.) XX. 1, 2, 4a.

Origanum hirtum *Link*, Enum. Hort. Berol. ii. 114 (1822).

Angadere, 22–24.7.23, *Ingoldby* 452.

Distr. X. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6a, 6b, 7a, 8, 14, 16.

Phlomis pungens *Willd.* Sp. Pl. iii. 121 (1801) var. **laxiflora** *Vel.* Fl. Bulg. Suppl. 232 (1898) as subsp. ; Fl. Bulg. 459 (1891).

Eski Keui, 3.6.23, *Ingoldby* 285.

Distr. (of species) III. 2, 3, 6, 6a, 7, 8a, 9, 10.

Prunella laciniata *L.* Sp. Pl. ed. 2. 837 (1763).

Angadere, in open oak scrub, 27.7.23, *Ingoldby* 483, 487.

Distr. V. and XII. 1, 2, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

P. vulgaris *L.* Sp. Pl. 600 (1753).

Angadere, 24.7.23, *Ingoldby* 469.

Distr. I. 1, 2, 3, 3b, 4, 4a, 5, 6, 6a, 7, 8, 9, 10, 10a, 11, 12, 13, 14, 15, 16.

P. laciniata *L.* x **vulgaris** *L.* ?

Angadere, corollas blue fading to purple, 22–24.7.23, *Ingoldby* 436.

Salvia aethiopis *L.* Sp. Pl. 27 (1753).

Anzac, 27–28.5.23, *Ingoldby* 247 ; Angadere, 22–24.7.23, *Ingoldby* 446.

Distr. V. 6, 7, 8, 8a, 8b, 9, 10.

S. verbenaca *L.* Sp. Pl. 25 (1753).

Suvla, clear blue flowers, 24.4.24, *Durham* 49.

Distr. V. and W. Europe. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6a, 7, 8, 8a, 13, 14, 15, 16.

S. verbenaca *L.* var. **vernalis** *Boiss.* Voy. Bot. Esp. ii. 484 (1839–1845). *S. clandestina* L. Sp. Pl. ed. 2, 36 (1762). *S. verbenaca* L. var. *clandestina* Hal. Consp. Fl. Gr. ii. 490 (1902).

Kilia, common and abundant on dry open hillsides, 19–22.4.23, *Ingoldby* 35 ; Suvla and Anzac, 16.5.24, *Kett* 113.

Distr. Nearly as for the species as a whole.

S. virgata *Ait.* Hort. Kew. i. 39 (1789).

Eski Keui, 3.6.23, *Ingoldby* 281 ; Angadere, coral-pink and white-flowered plants, 1.7.23, *Ingoldby* 352, 353, 354.

Distr. X. and XIVa. 1, 2, 2a, 3, 3b, 4, 6a, 7, 8, 8a, 10, 11.

S. viridis *L.* Sp. Pl. 24 (1753).

Kilia, in flower and fruit, 24.5.23, *Ingoldby* 226 ; Helles, 28.5.23, *Ingoldby* 270 ; flowered at Kew, May and June 1923,

from fruits collected in Gallipoli Peninsula by Lt.-Col. Durham, 1922. The flowers failed to set seed at Kew.
Distr. VI. and XIV.a. 1, 2, 2a, 4a, 6, 6a, 7, 14.

Satureia thymbra *L.* Sp. Pl. 567 (1753).
Helles, 28.5.23, *Ingoldby* 272.
Distr. X. and Sardinia. 1, 2, 2a, 4a, 6b.

Sideritis remota *d' Urv.* Mém. Soc. Linn. Par. i. 322 (1822).
Near Gaba Tepe, close to the beach, 10.6.23, *Ingoldby* 319.
Distr. X. 2, 6a, 7.
In the plants of this species from peninsular Greece, preserved at Kew, the spinulose-mucronate calyx-teeth are stiffer, stouter, and straighter than in the Oriental specimens. A specimen from Vodena, Macedonia, collected by Adamović is the same as the Oriental plants, as is also the one from Gallipoli quoted above.

Stachys orientalis *Vahl.* Symb. ii. 64 (1791). ?L. Sp. Pl. 582 (1753).
Angadere, up to 2 feet in height, on dry flat hill-tops, 150 m., very sweet smelling, 21.7.23, *Ingoldby* 421.
Distr. X. 2, 7, 8, 8a, 11, 14, 15.

Stachys sp.
Kilia, 24.5.23, *Ingoldby* 225.
The specimens may possibly be placed under *S. italica* sensu Hal. Consp. Fl. Gr. ii. 518 (1902) et auct. plur. sed vix Mill. Gard. Dict. ed. 8 (1768). They come close to the material at Kew and the British Museum (Natural History) under Fl. Ital. Exsicc. 1945, named *S. italica* forma *Janiana* Ces. Pass. et Gib., but they are not identical with it.

Stachys sp.
Anzac, 16.5.23, *Kett* 13.
This specimen is also morphologically related to *S. italica* auct., but is not identical with *Ingoldby* 225.

Teucrium chamaedrys *L.* Sp. Pl. 565 (1753).
Near Gaba Tepe, 10.6.23, *Ingoldby* 302 ; Angadere, 1.7.23, *Ingoldby* 361 ; Angadere, in open oak scrub, 27.7.23, *Ingoldby* 488.

Distr. III. 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 8, 8a, 9, 10, 11, 12, 13, 14, 15, 16.

T. divaricatum *Sieb.* Remarq. 5 (1821) nomen nudum ; Hal. Consp. Fl. Gr. ii. 474 (1902).
Anzac, 16.5.23, *Kett* 11 ; Maidos, 14.7.23, *Ingoldby* 378.
Distr. X. 1, 2, 2a, 3a, 6b, 7.

T. polium *L.* Sp. Pl. 566 (1753).
Walker's Ridge, Anzac, 90 m., 4.5.23, *Kett* 35 ; Anzac, 22.5.23, *Kett* 42 ; Angadere, Quarry Hill, 250 m., 15.7.23, *Ingoldby* 381.

Distr. V. 1, 2, 2a, 3, 3a, 3b, 4, 4a, 5, 6, 6a, 7, 7a, 8, 8a, 8b, 9, 10, 11, 12, 13, 14, 15, 16.

T. scordioides *Schreb.* Plant. Verticill. Unilab. 37 (1774).
Angadere, 24.7.23, *Ingoldby* 468.
Distr. V. 1, 2, 2a, 3, 3b, 4, 5, 6, 6a, 7, 7a, 8, 8a, 10, 11, 13, 14, 16.

Thymbra spicata *L.* Sp. Pl. 569 (1753).
Near Gaba Tepe, close to the beach, 10.6.23, *Ingoldby* 321.
Distr. XI. 1, 2, 2a, 7.

Thymus zygioides *Griseb.* Spic. Fl. Rumel. ii. 118 (1844).
Kilia, low spreading habit, in flower, 19–22.4.23, *Ingoldby* 53.
Distr. XIX. 6, 6a, 7, 8, 8a, 8b, 9, 10.
Our plant agrees with a specimen at Kew collected by Grisebach in Thrace. In the original description the corollas are described as "albida." So far as I can judge from dried material this is incorrect. Degen in Mag. Bot. Lap. xix. 15, 1920 (1922), has shown that *T. glaucus* Friv. is a species distinct from *T. zygioides* Griseb., though the two species had been united by Velenovsky.

Ziziphora capitata *L.* Sp. Pl. 21 (1753).
Kilia, 24.5.23, *Ingoldby* 223.
Distr. V. 2, 3, 3b, 4, 6, 6a, 6b, 7, 8, 8a, 10.

(*To be continued.*)

XL.—FURTHER NOTES ON OURATEA.

L. A. M. Riley.

Since the publication of my Revision of the Mexican and Central American species of *Ouratea** some additional material collected in Panama has been received from Dr. N. L. Britton. This includes specimens of a new species related to *O. Wrightii* (Van Tiegh.), from which it differs *inter alia* in the stipitate drupes. Another specimen extends the known distribution of *O. pyramidalis* Riley southwards to Panama. This species was previously recorded only from Tabasco and Guatemala. An additional species from Mexico is also described. The numbers which precede the species are those used in my Revision.

6. **Ouratea pyramidalis** *Riley* in Kew Bull. 1924, 107.
Panama. *Sutton Hayes* 506 (coll. 1859–60).
The Panama plant has a much longer panicle (18 cm.) than those from Tabasco and Guatemala, but cannot be separated specifically on the present material.

6a. **Ouratea madrensis** *Riley*, sp. nov. affinis *O. pyramidali* Riley, foliis oblongis supra medium tantum dentatis, paniculis longioribus cylindricis nec pyramidalibus, pedicellis usque ad 1·3 cm. longis recedit.
Frutex 2–3 m. altus. *Ramuli* graciles, 1·5 mm. diametro infra folium supremum, glabri, fusco-cinerascentes. *Folia* oblonga,

* *Kew Bull.* 1924, p. 101.

7–14 cm. longa, 2·5–5 cm. lata, breviter acuminata, basi cuneata vel subrotundata, superne argute et laxe dentata, coriacea, supra nitida, subtus opaca vel nitidula tantum, costa et nervis utrinque satis manifestis; petioli incrassati, 3–5 mm. longi; stipulae delapsae. *Panicula* semel ramosa, cylindrica, gracilis, perlaxa, ad 15 cm. longa; pedunculi inferiores 6–7 mm. longi, 2–3-flori, superiores 2–3 mm. longi, 1–2-flori; pedicelli 0·8–1·3 cm. longi. *Alabastra* (in sicco) ovoidea, 7·5 mm. longa, 3·5 mm. diametro, subacuta. *Flores* ex alabastro descripti. *Sepala exteriora* ovato-lanceolata, 8 mm. longa, 3·5 mm. lata, subacuta, basi truncata vel subrotundata; sepala interiora ovata, 8 mm. longa, 4 mm. lata, marginibus hyalinis 1·75 mm. latis inclusis, apiculata, in basin truncatam rotundata. *Petala* obovata 1 cm. longa, 0·6 cm. lata, apice subrotunda, in basin truncatam 1·25 mm. latam gradatim angustata. *Antherae* obclavatae, 5·5 mm. longae, transverse rugosae, puniceae. *Ovaria* 5, ellipsoidea, 1·5 mm. longa, 1 mm. diametro, gynophoro 1 mm. alto insidentia; stylus 5 mm. longus. *Fructum* non vidi.

Mexico. Guerrero: Sierra Madre, 500 m., fl. Feb., *Langlassé* 838 (type in Herb. Kew.).

I have placed this species with *O. pyramidalis* and *O. Jurgensenii* on account of the long pedicels and lax, graceful inflorescences. From these, however, it is readily distinguished by the cylindrical once-branched inflorescences and the leaf-margins being laxly dentate in the upper half only, characters which might suggest an affinity with *O. guatemalensis* or *O. Peckii*.

9. **O. isthmica** *Riley* l. c. 108.

Panama. *Sutton Hayes* 466 (coll. 1859–60).

12a. **Ouratea podocarpa** *Sprague et Riley*, sp. nov. ex affinitate *O. Wrightii* (Van Tiegh.), a qua foliis brevioribus obovato-oblongis vel elliptico-oblongis, inflorescentiis minus condensatis rhachi minus corrugata, pedicellis gracilioribus, carpophoro obovoideo, drupis stipitatis oblongo-ellipsoideis recedit.

Frutex 3 m. altus, caule 2–2·5 cm. diametro. *Ramuli* satis graciles, 1·5–1·75 mm. diametro infra folium supremum, fulvo-cinerascentes. *Folia* obovato-oblonga vel elliptico-oblonga, 9–14 cm. longa, 3–5 cm. lata, acuminata vel caudato-acuminata, basi obtusa, superne acute sed inconspicue serrata quadrante infimo integro, coriacea, utrinque opaca, subtus paullo pallidiora, costa nervisque ascendentibus utrinque manifestis; petioli 4–6 mm. longi, serius incrassati; stipulae e basi lata subulatae, 7 mm. longae. *Panicula* semel ramosa tantum, vel pedunculis inferioribus iterum ramosis, satis laxa, circiter 7 cm. longa, 2 cm. diametro; pedunculi superiores 1–3-flori, inferiores usque ad 7-flori; pedicelli rugosuli, ei florum 5–5·5 mm. longi, fructuum 8 mm. longi; bracteae caducae. *Alabastra* desunt. *Sepala exteriora* ovato-lanceolata, 8 mm. longa, 3 mm. lata, apice obtusa, basi subrotundata, marginibus paullo pallidioribus; sepala

interiora oblonga, 8·5 mm. longa, 3 mm. lata, marginibus hyalinis 1–1·3 mm. latis inclusis, apice mucronata, basi rotundata. *Petala* obovata, 1 cm. longa, 0.6 cm. lata, apice rotundata, in basin emarginatam quasi in unguem angustata. *Antherae* 10, obclavatae, 6·5–7 mm. longae, transverse rugosae. *Ovaria* 5, ellipsoidea, 1·5 mm. longa, 0·75 mm. diametro, gynophoro 0·75 mm. alto insidentia ; stylus 6·5 mm. longus, flexuosus, rubidus, apice pallidior. *Drupae* 1–2, rubrae, oblongo-ellipsoideae, crasse stipitatae, stipite vix 2 mm. longo incluso 1–1·1 cm. longae, 5·5 mm. diametro, longitudinaliter rugosulae, superne quasi reticulatae, carpophoro obovoideo 6 mm. longo et 5 mm. diametro insidentes.

Panama. Penonome, fl. and fr. Feb.-March, *R. S. Williams* 223 (type) ; Bismarck, above Penonome, *R. S. Williams* 546.

XLI.—MISCELLANEOUS NOTES.

The following appointments have been made by the Secretary of State for the Colonies :—

Mr. R. H. Slaughton-Harris, B.Sc., Mycologist, Rubber Research, Ceylon.

Mr. B. I. Slaughter, B.Sc., and Mr. D. S. Davis, B.Sc., Assistant Agricultural officers, Mr. G. W. Nye, B.Sc., Cotton Botanist, Mr. W. S. Martin, M.Sc., Ph.D., Agricultural Chemist, Uganda.

Mr. G. de F. Ross, Superintendent of Plantations, Cameroons.

Mr. F. R. Irvine, Agriculturist, Achimota Secondary School, Gold Coast.

Mr. D. C. Edwards, B.Sc., Agricultural Instructor, Njala College, Sierra Leone.

Mr. J. D. Brown, Superintendent, Agricultural Department, Nigeria.

Mr. C. H. Knowles.—We learn that Mr. C. H. Knowles (*K.B.* 1921, p.171), Senior Superintendent of Agriculture, has been appointed Deputy Director of Agriculture, Gold Coast.

Althenia in South Africa.—The genus *Althenia* F. Petit was hitherto recorded only from France, Portugal, Spain, Italy and North Africa. Ascherson and Graebner have united it with the genus *Lepilaena* Drumm. which occurs in Australia and Tasmania, but it is perhaps best kept separate. In October, 1923, I received from Mr. F. H. Holland specimens of *Ruppia maritima* L., subsp. *spiralis* (L.) Aschers. et Graebn., which in South Africa was previously recorded only from the neighbourhood of Capetown. It was collected in the lower reaches of the Chatty River near Redhouse (close to Port Elizabeth), which are often flooded with sea-water at high tides. Amongst the specimens of *Ruppia* I recognised some small scraps of an *Althenia* and at my request Mr. Holland very kindly collected a fairly large number of complete specimens. These resemble *A. filiformis* F. Petit and may have to be placed as a variety under this species, but

unfortunately, although I have had female flowers in all stages and fruits with ripe seeds and well developed embryos, I have failed to find any trace of male flowers, and since *Lepilaena* is distinguished from *Althenia* chiefly by the structure of the anthers a final decision as to the name which the South African plant should bear is better left over until stamens have been discovered. I think it advisable, however, to put its occurrence on record and to place it provisionally with the typical Althenias. I may add that my plant cannot be identical with *Zannichellia Aschersoniana* Graebner, which I have not seen, and which is placed by Graebner in a section by itself, *Pseudo-Althenia*, and is described and figured by him in "Pflanzenreich" iv. ii. p. 157. It was found by Wolley-Dod in South-West Cape Colony.

S. SCHONLAND.

The Andaman Islands.*—In his Forest Flora of the Andaman Islands Mr. Parkinson aims at providing foresters with a small book enabling them to find out the names of the forest products of the district. For this purpose some fifty pages at the beginning of the work are devoted to keys. These keys are in such simple, untechnical language that even those untrained in botany can use them. First there is a key to main groups such as "Trees, climbers," etc. Then each group is taken separately and divided by easy characters such as "Leaves simple, leaves trifoliate, leaves pinnate," etc. In this way the reader arrives at two numbers, one referring to the description of the species, the second to the page on which it is described. After these keys follow descriptions of the 516 woody plants to be found in the islands, arranged in botanical sequence and consecutively numbered. The common names used locally are an assistance to identification and an alphabetical index of them is appended as well as an index of the botanical names. A series of six pages of drawings, chiefly of fruits, is also included.

S. T. D.

The Imperial Forestry Institute, Oxford.—The proposal to establish an Imperial Forestry Institute, which has been under consideration for some time, is dealt with in the following communication.

"The present year will see the beginning of what should prove to be a great development in Forestry training and research, with the establishment at Oxford of an Institute which will be known as the Imperial Forestry Institute, a title adopted at the command of His Majesty the King.

"The question of establishing a central training institution was first discussed by the British Empire Forestry Conference in 1920. This Conference felt that, owing to lack of funds and dissipation of effort, training in the higher branches of forestry for the needs

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* A Forest Flora of the Andaman Islands, C. E. Parkinson, Simla, 1923. Rs. 12.8.

of the Empire was nowhere as complete or efficient as was desirable, and therefore recommended the establishment in the United Kingdom of one institution which should undertake the higher training of forest officers and should also be a centre for research into the formation, tending, and protection of forests. An impartial Committee, consisting partly of representatives of Government departments concerned and partly of experts, was thereupon appointed to make recommendations regarding the location and organization of such an institution and other matters. After visiting the Universities of Oxford, Cambridge, Bangor and Edinburgh, and also taking evidence from other Universities, as well as from Institutions and Societies interested in Forestry, this Committee issued in 1921 a report which recommended the establishment at Oxford of a central institution for the higher training of forest officers, for training in research, for the provision of special and 'refresher' courses for officers already serving, and for the conduct of research into forest production. The report made it clear that there was no intention of interfering with the work done by the various University Schools of Forestry, and provided the training of these was maintained at a required standard selected students from any such schools would be eligible for admission to the central institution. Full details will be found in the report of the Inter-departmental Committee on Imperial Forestry Education, 1921 (Command Paper 1166).

"Further action was suspended until 1923, when the proposals of the Inter-departmental Committee were considered by the British Empire Forestry Conference in Canada. The Conference supported them in the strongest terms, and they were subsequently endorsed by the Imperial Economic Conference held in London the same year. Arrangements have accordingly been completed for starting the Institute in October 1924.

"The Imperial Forestry Institute will be a University Institute, the Professor of Forestry being its Director. It will be under the control of the Board of Governors representing the University and Government Departments concerned, under the Chairmanship of Lord Clinton, a Forestry Commissioner. The educational work of the Institute will comprise (1) post-graduate training of probationers for the forest services and of other qualified persons, (2) training of research officers in special subjects, and (3) provision of courses for selected officers already serving. It is intended that the Institute should maintain close touch with and be of assistance to the various forestry training centres throughout the Empire. Thus, in the case of overseas training centres which have no direct means of giving practical instruction in the latest systems of management as practised on the continent of Europe, it will be one of the functions of the Institute to arrange for such practical instruction to be given by members of its own staff to students who have already completed their general course of training at their own Universities or Colleges.

"If in any particular case it cannot undertake to give direct

instruction, the Institute may arrange that this should be given at some other place. It is proposed, for instance, that close touch should be maintained with the Royal Botanic Gardens, Kew, whose unrivalled resources should be of great assistance to those students who may wish to study systematic botany and economic products. Again, forest engineering is a subject which cannot be dealt with comprehensively in Great Britain, owing to the absence of logging operations on a large scale; arrangements will therefore be made as far as possible to study it practically in the forest regions of the Continent, or in certain cases in Canada. Similarly, the study of tropical silviculture from the practical point of view is impossible outside the tropics, and hence the Institute will maintain close touch with other institutions where this subject can be efficiently dealt with, such as the Forest Research Institute and College, Dehra Dun, in order that the best possible arrangements may be made in the interests of students who wish to make a practical study of tropical silviculture.

"Although the Institute is intended primarily to serve the needs of forestry in the British Empire, it will be open to qualified students of any nationality provided that there is sufficient accommodation. Nor is it by any means intended that it should cater only for the requirements of State forest services; now that timber and wood-pulp firms are becoming more and more interested in the management and working of forests on scientific and economic lines, the Institute should be of special value in providing them with fully trained employees.

"The course of study at the Institute will normally extend over one academic year, beginning October, and will be made sufficiently elastic to serve the needs of individual students. The subjects dealt with will cover the whole range of Forestry, and will include Silviculture (European and Tropical), Forest Management (including Mensuration, Valuation, and working plans), Forest Botany (including physiology and anatomy of trees, mycology and pathology, ecology, and systematic botany), Forest Zoology (including entomology), Forest Utilization (including the structure, properties and uses of wood), Soils, Climatology, Forest Economics and Policy, Forest Law, and Forest Engineering including Surveying.

"Temporary accommodation for the Institute has been arranged, but a more suitable site and larger buildings will be necessary, and the formidable task of obtaining funds for the acquisition of a site and the erection of buildings remains. A building fund is being started, and it is hoped that this great undertaking will not suffer from lack of support on the part of benefactors who have at heart the welfare of the Empire in general and the cause of Forestry in particular."

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